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editorial*

SDMS Document ID



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J. David Holm, Director
Colorado Water Quality Control Division
Colorado Department of Public Health and Environment
4300 Cherry Creek Dr. S.
Denver, Colorado 80222-1530

Dear Dave:

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Both the State of Colorado and Sunnyside Gold Corporation are to be commended in your innovative approach to problems encountered in final closure of the Sunnyside Gold Mine. Furthermore, Environmental Protection Agency (EPA) is pleased that Colorado has chosen to use a watershed/trading approach as one step toward achieving the goals of improving water quality in the Animas River. As the EPA is not a party to the Consent Decree between the State and SGC, we and all of the stakeholders appreciate the opportunity to provide comments for your consideration.

Although EPA is supportive of the concepts outlined in the Consent Decree and the associated NPDES permits, a few concerns remain: (a) permit terms and conditions; (b) permit termination (c) Cement Creek treatment; and (d) financial assurance. More specific comments and comments of a more editorial nature are provided in the attached detailed comments.

CPDS Permits

The draft permit for the Sunnyside Gold Corporation (SGC) Mine Remediation Projects (CO-0044678), as with all NPDES permits, must function as a stand-alone document, regardless of the existence of the Consent Decree. The permit needs to contain specific performance standards and the processes for review and approval of the mine remediation projects (MRPs), including any additional mitigation projects, and other permit conditions applicable to mine remediation work. A reference for this information might be the Draft General Permit for Stormwater Discharge Associated with Metal Mining Operations and Mine-Water Remediation (Permit Number COR-040000, Parts I.C.1 - I.C.6). Additional requirements related to plan preparation, implementation, retention, submittal, review, changes, non-stormwater discharges, inspections and permit availability must also be included in the permit even if they are addressed in the Consent Decree.

Permit Termination

Therefore, EPA's preference would be to remove all references to this issue from the C.D. If that is not possible and
In opinion
EPA ~~does not concede~~ that permits are ~~not~~ required for ground water discharges to surface water. ~~Therefore, if some~~ sort of statement concerning this issue remains in the final Consent Decree, it should be made clear that the concession is made due to the facts of this case. We would suggest that the sentences on page 13, paragraph 8(c) and page 24, paragraph 22 be

removed and replaced with language as follows:

The Division agrees, based on the facts of this case, that in the event of a Successful Permit Termination Assessment pursuant to paragraph 14, no future CDPS point source permits will be required of SGC for seeps or springs which emerge or increased in the Upper Animas River or Cement Creek drainages following installation and closure of bulkhead seals in the American or Terry Tunnels.

Cement Creek Treatment

We are pleased with the commitment to treat Cement Creek in order mitigate short-term impacts and to allow a "buffer" until the mine remediation projects have adequate time to improve water quality. However, we have some concerns regarding a lack of specificity concerning Cement Creek treatment in the Consent Decree. We have three main issues regarding Cement Creek treatment: 1) the language concerning the quantity of flow to be treated by the treatment plant is unclear (Does this mean that Sunnyside will operate their treatment plant at maximum capacity at all times?); 2) it is also unclear in the Consent Decree what will trigger the cessation of treatment of Cement Creek; and 3) the response to exceedances of the monthly zinc average at the reference point needs further definition.

Financial Assurance

The conditions upon which the State can draw on the surety and the purposes for which the State can use the surety funds are very restrictive. It is our understanding that the funds can only be used if Sunnyside is bankrupt and discontinues treatment of water necessary to maintain water quality. We recommend that the State have access to the surety if SGC fails to perform as required in the Consent Decree, no matter what the reason for the failure to perform. Furthermore, use of the term bankrupt is ambiguous. What does "become bankrupt" mean? Does this mean SGC has filed for bankruptcy; does it mean that SGC has been adjudicated bankrupt by a court; or does it just mean SGC is out of money? Finally, the State is restricted to use the surety funds only to enter and operate the treatment facility at the American Tunnel. We recommend that the surety be available to allow the State to complete any work SGC is required to perform under the Consent Decree. For instance, if SGC were to go bankrupt before they complete the A list projects, the surety should be available to complete these projects, if the State so chooses.

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rewriting
this
sentence

Sincerely,

Max Dodson

Specific Consent Decree Comments

Page 11, Paragraph 6

How will the data for the reference point be tracked by CDPHE? Will it be entered into the Permit Compliance System Data Base (PCS)?

Page 12, Paragraph 8

a. If an inspection indicates that SGC has not completed a mitigation project what actions must SGC take and in what time frame?

b. Although Section VIII states the "A List" projects must be completed prior to a permit termination request, it would probably be clearer to state that in this section.
Suggested change/addition:

After completion of the "A List" projects, SGC may request a Permit Termination Assessment. Within sixty days of a request by SGC, the Division will complete a Permit Termination Assessment pursuant to Section VIII of the Consent Decree.

Is there a provision in the Consent Decree to substitute projects on the A List for other projects if the owner's permission cannot be obtained?

Page 14, Paragraph 9 (a)

For the determination of equilibrium - what exactly is meant by the "rate of rise has leveled off?" EPA suggests adding another appendix to the Consent Decree which describes the process for determining if equilibrium has been met. Does the notice by SGC that equilibrium has been reached need to provide supporting data and describe how SGC reached that conclusion? The text is a little unclear concerning what exactly is required to be provided.

What does "maintenance" of the portion of the American Tunnel downstream of the SGC property mean? This term should be defined so it is clear what action(s) will trigger the release of SGC from its permit for the American Tunnel.

Page 15, Paragraph 9 (b)

Work plans for each of the mitigation projects covered by the draft permit CO-0044768, and listed in Appendix B, should be reviewed and approved through the permit process. Approval should only be granted after: adequate requirements have been established for the work plans and contained in permit CO-0044768; and the work plans (or mine remediation

plans) have been prepared according to those established requirements, and reviewed by the Division.

A specific time frame for receiving additional workplans should be established in the consent decree and mine remediation plan permit. We suggest wording similar to: "If SGC notifies the Division that they intend to perform additional remediation projects, then SGC will submit work plans within sixty (60) days of the notification."

All of the attachments reference adits in the "Site Loading Estimate" whether or not the site actually has an adit and the work to be performed is related to reducing the loading from the adit. If the site does not have an adit that was used to calculate the site loading, this portion should be deleted.

Page 15, Paragraph 9(c)

We believe that SGC should be required to operate its treatment plant at its maximum capacity at all times. SGC should accommodate the lower American Tunnel flow and as much of the Cement Creek flow as they can until the maximum treatment plant capacity is reached. With the current Consent Decree language, the flow in Cement Creek which SGC is required to treat is not very clearly stated. In which months will all the flow be treated (what are you considering low flow months)? In which months will only a portion of the flow be treated (what are you considering high flow months)? How will it be determined what the equivalent volume lost to the treatment system due to mine sealing is during high flow?

Page 16, Paragraph 10

Monitoring should use methods approved in 40 CFR Part 136.

Page 17, Paragraph 10 (a) (iii)

The Consent Decree states monthly sampling of the American Tunnel Treatment Facility Effluent (we assume this is at outfall 004A as specified in the permit). The permit requires weekly sampling at 004A. Why are these frequencies different? Are these different outfalls? We support the weekly sampling as required by the permit.

Page 19, Paragraph 11

Will SGC seek the necessary approvals/UIC permit prior to commencing injection of the alkaline water into the mine pool?

Page 21, Paragraph 13

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The Consent Decree requires SGC to submit Work Plans (for additional projects) within a "reasonable amount of time." We suggest the time frame be more specific. Suggest wording like:

If SGC notifies the Division that they intend to perform additional remediation projects, then SGC will submit Work Plans within sixty days of the notification.

Page 21, Paragraph 13

Work plans for any additional remediation projects should contain all of the information required in permit CO-0044768, pursuant to the changes specified in previous comments. Permit number CO-0044768 could allow additional projects to be covered, if language detailing this process is added to the permit.

Page 22, Paragraph 14 (g)

It is unclear in the Consent Decree what will trigger the cease of treatment of Cement Creek (review of Appendix A did not clarify this question).

a. How long SGC will have to maintain a zinc concentration at the reference point at or below the 12-month moving average in order to be released from treating Cement Creek?

b. Who will be responsible for making the determination that SGC may stop treating Cement Creek? (SGC or CDPHE?)

c. The amount of flow in Cement Creek which SGC is required to treat should be more clearly stated. In which months will all the flow be treated (what are you considering low flow months)? In which months will only a portion of the flow be treated (what are you considering high flow months)? How will it be determined what the equivalent volume lost to the treatment system due to mine sealing is during high flow?

Page 23, Paragraph 19

The permit number should be CO-002759 for the American Tunnel.

Page 24, Paragraph 22

Permit release language should apply to SGC only.

Page 24, Paragraph 24 (a)

It is our understanding that the permits can only be terminated according to the criteria specified in the Permit Termination Assessment (paragraphs 12, 13, 14, and 15).

Reference to this process should be contained in paragraph 24.a.

This paragraph should be reworded to state that SGC will not be required to get a permit for seeps and springs. This will make this paragraph consistent with paragraph 8(c) on page 13.

Page 25, Paragraph 25 (a)

There are several problems with the financial surety. The level of financial surety is probably inadequate in the case of a catastrophic failure of the plan under the consent decree. In other words, there is no planning for contingencies.

Page 26, Paragraph 24 (c)

As explained in previous comments, work plans for additional mitigation projects should follow requirements and procedures established in permit number CO-0044768.

Page 35

Should the Terry Tunnel permit (CO-0036056) also be attached as an Appendix E?

Appendix A

Page 4 (a), First bullet paragraph

The response to exceedances of the monthly zinc average at the reference point needs further definition. SGC should automatically be required to investigate possible causes of elevated zinc values. How long does SGC have to lower the zinc levels if a problem occurs? Subsequent to the investigation period which should last a maximum of sixty (60) days, SGC should be required to submit an investigation report and a mitigation plan to the WQCD.

The copy of Appendix A we received ended with Paragraph ____ in the last sentence. We believe this section should reference Paragraph 13 of the Consent Decree.

Permit for Mitigation Projects CO-0044768

DMRs need to be sent to EPA's new address:

U.S. Environmental Protection Agency (8ENF-T)
Office of Enforcement, Compliance
and Environmental Justice
Technical Enforcement Program
999 18th Street, Suite 500

MSR
DWR
P-8

Denver, CO 80202-2466

All projects

All of the attachments reference adits in the "Site Loading Estimate" whether or not the site actually has an adit and the work to be performed is related to reducing the loading from the adit. If the site does not have an adit that was used to calculate the site loading, this portion should be deleted.

The measures (BMPs) that must be taken to reduce impacts to the stream during the projects appear to be nonexistent or poorly defined. Each work plan should specify what BMPs will be used to reduce surface water impacts during construction.

We are concerned that SGC has not contacted most of the land owners concerning the proposed projects. Is there a provision in the Consent Decree to substitute projects on the A List for other projects if the owner's permission cannot be obtained?

Project AT

It appears that this project has already been completed. What was the loading reduction realized by the project? How did it compare to SGC's estimated loading reduction?

Detailed Comments Related to the Permits

American Tunnel Permit CO-0027529

DMRs need to be sent to EPA's new address:

U.S. Environmental Protection Agency (8ENF-T)
Office of Enforcement, Compliance
and Environmental Justice
Technical Enforcement Program
999 18th Street, Suite 500
Denver, CO 80202-2466

Terry Tunnel Permit CO-0036056

DMRs need to be sent to EPA's new address:

U.S. Environmental Protection Agency (8ENF-T)
Office of Enforcement, Compliance
and Environmental Justice
Technical Enforcement Program
999 18th Street, Suite 500
Denver, CO 80202-2466

Section V, Item 9 (a), Page 13

The summary of work provides a brief discussion of the plugging of the Terry Tunnel. It does not make mention of the need to add buffering amendments to the fluid behind the bulkhead during the flooding of the workings. It was our understanding that this action was agreed upon as a means of raising the pH to reduce dissolved metal loading in the workings. This is a critical element of the mine plugging proposal. It should be mentioned in the summary. The target pH in the workings (or pH range) should also be mentioned.

Section VI, Item 10 (b), Page 18

The sampling at the four mines identified in this section must include flow measurements in order to determine if the plugging has resulted in loading changes. The monitoring requirements of the CDMG permit should also be mentioned. Because this information was not readily available, we suggest that SGC be required to identify new springs and seeps in the vicinity of these locations and sample them if the flow increases measureably.

Appendix B, "A" List - Primary Project (1)

The plan calls for raising the pH in the Sunnyside Mine to a range of 8 to 9. We are concerned that the range of pH may not be high enough to handle the zinc and copper concentrations. A pH range of 10 to 11 would appear to be a more realistic range to assure adequate precipitation of metals within the mine pool.

There is no indication as to how the pH for the injection or the pH in the mine pool will be monitored and adjusted. This is a critical issue given the difficulty in assuring adequate mixing of the mine pool. There should be a requirement for monitoring the mine pool in sufficient locations to assure that the pH is in the target range.

Appendix B, "A" List - Primary Project (2)

The plan for dealing with the mine waste dump at the South Fork of Cement Creek does not address dealing with the contaminated material under the waste dump. Experience at the Eagle Mine and Chalk Creek indicates that a significant amount of contaminated soil will be under the pile. This should be removed and new soil should be placed in the excavation prior to any attempt at revegetation. If this does not happen, the revegetation effort will be subject to failure and the ground water and surface water leaving this area will show a significant increase in metals.

The comments provided above regarding removal of contaminated material underlying the tailings piles also applies to the remainder of the tailings removal projects (Items 3-7). These projects should be undertaken with specific soil sampling plans and removal criteria to assure that the highest level of metal-contaminated material is removed. Criteria for soil cover after removal of the material should also be stipulated.

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Any WET onto from M12 lead?